

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for managing multicast groups in an InfiniBand ~~[[a]]~~ system area network, the method comprising:
 - receiving, by a Subnet Administration in a first InfiniBand node, a join request from a second InfiniBand node for joining a multicast group, wherein the second node is connected to a first switch and wherein the join request is a send-without-receive request, and wherein the first InfiniBand node is included within the InfiniBand system area network;
 - determining whether the multicast group exists; and
 - if the multicast group does not exist, creating, by the Subnet Administration, the multicast group and routing the first switch to discard all packets for the multicast group.
2. (Currently amended) The method of claim 1, wherein the step of creating the multicast group includes assigning an InfiniBand multicast local identifier (MLID) ~~a multicast identifier~~ to the multicast group.
3. (Original) The method of claim 1, wherein the step of routing the first switch includes inserting an entry for the multicast group in a multicast routing data structure in the first switch.
4. (Currently amended) The method of claim 3, wherein the multicast routing data structure is indexed by an InfiniBand multicast local identifier (MLID) ~~multicast identifier~~.
5. (Original) The method of claim 3, wherein the entry for the multicast group includes an indication that packets are to be discarded.
6. (Original) The method of claim 1, further comprising:
 - responsive to a join request from a receiving node, updating at least one multicast routing table for at least one switch in the system area network to route packets for the multicast group to the receiving node.

7. (Currently amended) The method of claim 6, further comprising:
receiving a leave request from a third second node for leaving the multicast group;
determining whether a single node remains in the multicast group; and
if a single node remains in the multicast group, routing a switch closest to the single node to discard all packets for the multicast group.
8. (Currently amended) A method for managing multicast groups in an InfiniBand [[a]] system area network, the method comprising:
receiving, by a Subnet Administration in a first InfiniBand node, a leave request from a second node for leaving a multicast group, wherein the multicast group has a first member at a third [[first]] node connected to a first switch, and wherein the multicast group is identified using an InfiniBand multicast local identifier (MLID), and wherein the first InfiniBand node is included in the InfiniBand system area network;
determining whether a single node remains in the multicast group; and
if a single node remains in the multicast group, routing, by the Subnet Administration, the first switch to discard all packets for the multicast group.
9. (Original) The method of claim 8, wherein the first member is a send-without-receive member.
10. (Original) The method of claim 8, wherein the step of routing the first switch includes inserting an entry for the multicast group in a multicast routing data structure in the first switch.
11. (Currently amended) The method of claim 10, wherein the multicast routing data structure is indexed by the InfiniBand multicast local identifier (MLID) multicast identifier.
12. (Original) The method of claim 10, wherein the entry for the multicast group includes an indication that packets are to be discarded.
13. (Original) The method of claim 8, further comprising:
responsive to a join request from a receiving node, updating at least one multicast routing table for at least one switch in the system area network to route packets for the multicast group to the receiving node.

14. (Currently amended) An apparatus for managing multicast groups in an InfiniBand [[a]] system area network, the apparatus comprising:

a Subnet Administration in a first InfiniBand node receipt means for receiving a join request from a second node for joining a multicast group, wherein the second node is connected to a first switch and wherein the join request is a send-without-receive request, and wherein the first InfiniBand node is included within the InfiniBand system area network;

determination means for determining whether the multicast group exists;

creation means for creating the multicast group; and

the Subnet Administration routing means for routing the first switch to discard all packets for the multicast group if the multicast group does not exist.

15. (Currently amended) The apparatus of claim 14, wherein the creation means includes means for assigning an InfiniBand multicast local identifier (MLID) ~~a multicast identifier~~ to the multicast group.

16. (Original) The apparatus of claim 14, wherein the routing means includes means for inserting an entry for the multicast group in a multicast routing data structure in the first switch.

17. (Original) The apparatus of claim 14, further comprising:
means, responsive to a join request from a receiving node, for updating at least one multicast routing table for at least one switch in the system area network to route packets for the multicast group to the receiving node.

18. (Currently amended) An apparatus for managing multicast groups in an InfiniBand [[a]] system area network, the apparatus comprising:

a Subnet Administration in a first InfiniBand node receipt means for receiving a leave request from a second node for leaving a multicast group, wherein the multicast group has a first member at a third [[first]] node connected to a first switch, and wherein the multicast group is identified using an InfiniBand multicast local identifier (MLID), and wherein the first InfiniBand node is included within the InfiniBand system area network;

determination means for determining whether a single node remains in the multicast group; and

routing means for routing, by the Subnet Administration, the first switch to discard all packets for the multicast group if a single node remains in the multicast group.

19. (Original) The apparatus of claim 18, wherein the first member is a send-without-receive member.
20. (Original) The apparatus of claim 18, wherein the routing means includes means for inserting an entry for the multicast group in a multicast routing data structure in the first switch.
21. (Original) The apparatus of claim 18, further comprising:
means, responsive to a join request from a receiving node, for updating at least one multicast routing table for at least one switch in the system area network to route packets for the multicast group to the receiving node.
22. (Currently amended) A computer program product, stored in a computer readable medium, for managing multicast groups in an InfiniBand [[a]] system area network, the computer program product comprising:
instructions for receiving, by a Subnet Administration in a first InfiniBand node, a join request from a second node for joining a multicast group, wherein the second node is connected to a first switch and wherein the join request is a send-without-receive request, and wherein the first InfiniBand node is included within the InfiniBand system area network;
instructions for determining whether the multicast group exists; and
instructions for creating, by the Subnet Administration, the multicast group and routing the first switch to discard all packets for the multicast group if the multicast group does not exist.
23. (Currently amended) A computer program product, stored in a computer readable medium, for managing multicast groups in an InfiniBand [[a]] system area network, the computer program product comprising:
instructions for receiving, by a Subnet Administration in an InfiniBand node, a leave request from a second node for leaving a multicast group, wherein the multicast group has a first member at a third [[first]] node connected to a first switch, and wherein the multicast group is identified using an InfiniBand multicast local identifier (MLID);
instructions for determining whether a single node remains in the multicast group; and
instructions for routing, by the Subnet Administration, the first switch to discard all packets for the multicast group if a single node remains in the multicast group.